

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/063218 A2

(51) International Patent Classification⁷: **A61K 31/00**

T., M. [US/US]; 172-11 35 Avenue, Flushing, Queens, NY 11358 (US).

(21) International Application Number:
PCT/EP2004/014645

(74) Agent: **GRUBB, Philip**; Novartis AG, Corporate Intellectual Property, CH-4002 Basel (CH).

(22) International Filing Date:
22 December 2004 (22.12.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/532,334 23 December 2003 (23.12.2003) US

(71) Applicant (for all designated States except AT, US): **NOVARTIS AG** [CH/CH]; Lichtstrasse 35, CH-4056 Basel (CH).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for AT only): **NOVARTIS PHARMA GMBH** [AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ZANNOU, Erika**, Alna [FR/US]; 303 Timber Oaks Road, Edison, NJ 08820 (US). **BATEMAN, Simon, David** [GB/US]; 4 Farrington Lane, Randolph, NJ 07869 (US). **PUDIPEDDI, Madhusudhan** [IN/US]; 51 Calvert Avenue East, Edison, NJ 08826 (US). **ROYCE, Alan, Edward** [US/US]; RR 4 Box 9LE, Saylorsburg, PA 18353 (US). **SERAJUDDIN, Abu**,

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **PHARMACEUTICAL FORMULATIONS OF BISPHOSPHONATES**

(57) Abstract: A pharmaceutical formulation comprising an oral dosage form containing a bisphosphonic acid or a salt thereof and an inactive ingredient selected from: an ester of a medium chain fatty acid, or a lipophilic polyethylene glycol ester, said inactive ingredient having a hydrophilic lipophilic balance (HLB) of from about 1 to about 30.

WO 2005/063218 A2